EOS Science Networks Performance Report

This is a summary of EOS QA SCF performance testing for August 2002 -- comparing the performance against the requirements from BAH, including Terra, TRMM, and QuikScat, Aqua, ADEOS II, partial Aura and SAGE III, and ICESat requirements (still waiting for the rest of Aura). The requirements were increased in May 2001 by adding a 50% contingency factor to all QA and SIPS requirements, which were omitted with the change to the new BAH requirements in March 2001. In June 2001 the requirements were modified to incorporate an updated number of EOS funded users at each tested site, based on the latest SPSO database. The total number of users increased in this way from 434 to 1012 (US only).
Up to date graphical results can be found on the EOS network performance web site (now pretty stable): http://corn.eos.nasa.gov/performance/networks (Then click on a category next to "Active Testing")

Highlights:

- Apparent congestion for all NISN outflows from LaRC, performance is noisy, reduces daily worst measurement.
- Mostly stable performance – few changes

Ratings:

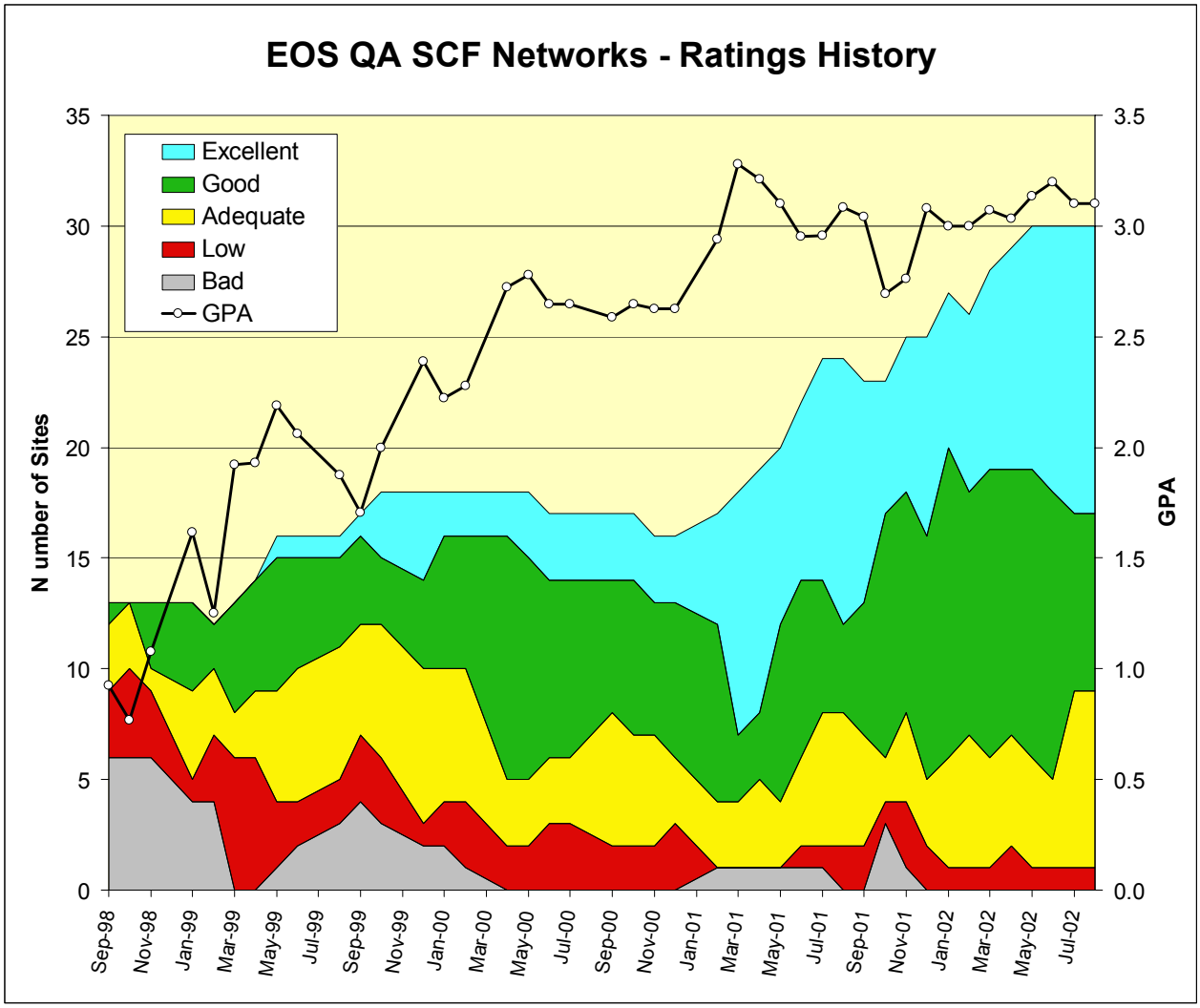
Rating Categories:

Excellent: median of daily worst cases > 3 x requirement
Good: median of daily worst cases > requirement

Adequate: median of daily worst cases < requirement
and
median of daily medians > requirement

Low: median of daily medians < requirement.
Bad: median of daily medians < 1/3 of the requirement.

The chart below shows the number of sites in each classification since the testing started in 1998. Note that these ratings do NOT relate to absolute performance -- they are relative to the EOS requirements. The GPA is calculated based on Excellent: 4, Good: 3, Adequate: 2, Low: 1, Bad: 0



Ratings Changes:

Upgrades: ↑

Penn State: Adequate → **Good**

Downgrades: ↓

Miami: Good → **Adequate**

EOS QA SCF Sites:

Network Requirements vs. Measured Performance

August 2002		Requirements (kbps)			Testing							
Destination	Team (s)	Previous: FY '01	Current: FY '02	Future: FY '03	Source Node: Test Period	Median kbps	Median Daily Worst	Current Rating* (FY '02)	Last Month	Future Rating* (FY '03)	Route Tested	Upgrade
AL, NSSTC (UAH)	CERES, AMSR	1809	2154	2154	LaTIS: 08-Aug-02 - 31-Aug-02	4675	3767	GOOD	G	GOOD	NISN + FDDI	
AZ, Tucson (U of AZ)	MODIS, MISR	2981	3571	4161	LDAAC: 18-Aug-02 - 31-Aug-02	16056	1664	Adequate	A	Adequate	Abilene via MAX	
CA, JPL (from LaRC)	MISR	8762	11192	14258	LDAAC-MISR-ATM: 12-Jul-02 - 31-Aug-02	14293	2081	Adequate	A	Adequate	NISN Private VC	Increase VC
CA, JPL (from GSFC)	AIRS, TES, others	5144	17556	6713	GDAAC-AIRS: 15-Aug-02 - 31-Aug-02	14042	4149	LOW	L	Adequate	NISN SIP	Increase VC
CA, RSS	AMSR	200	376	380	JPL PODAAC: 08-Aug-02 - 31-Aug-02	2264	1448	Excellent	E	Excellent	2 * T1 - Consolidated	
CA, UCSB	MODIS	2453	3583	4336	GDAAC: 01-Jun-02 - 31-Aug-02	12493	8747	GOOD	G	GOOD	Abilene via NISN-MAX	
CA, UCSD - SIO	ICESAT, CERES	1200	6225	6225	GSFC: 01-Jun-02 - 31-Aug-02	38151	16009	GOOD	G	GOOD	Abilene via MAX	
CO, Colo State Univ	CERES	1758	1665	1851	LaTIS: 01-Aug-02 - 31-Aug-02	2722	804	Adequate	A	Adequate	NISN -> Abilene	
CO, NCAR - Boulder	MOPITT, HIRDLS	4681	4716	4768	LaRC DAAC: 14-Jul-02 - 27-Aug-02	15345	1965	Adequate	A	Adequate	NISN -> ATTnet	NISN -> Abilene
FL, Univ. of Miami	MODIS, MISR	4612	10282	14121	GSFC: 07-Aug-02 - 31-Aug-02	14348	6894	Adequate	G	Adequate	Abilene via MAX	
IL, UIUC	MISR	1134	1134	1134								
MA, Boston Univ	MODIS, MISR	1207	1967	2474	EDC DAAC: 12-Aug-02 - 31-Aug-02	48812	30636	Excellent	E	Excellent	Abilene via vBNS+	
MA, MIT	ICESAT	1700	1700	1700	GSFC : 01-May-02 - 31-Aug-02	6727	5861	Excellent	E	Excellent	Abilene via MAX	
MD, UMD-College Park	MODIS	1928	1969	1997	GSFC-MAX: 01-Jan-02 - 31-Aug-02	152058	126952	Excellent	E	Excellent	Direct Fiber	
MT, Univ of Montana	MODIS	244	459	603	EDC DAAC: 29-May-02 - 31-Aug-02	90028	34521	Excellent	E	Excellent	Abilene via vBNS+	
NM, LANL	MISR	478	616	755	LaRC DAAC: 08-Aug-02 - 31-Aug-02	13932	3898	Excellent	E	Excellent	ESNet via ARC	
NY, SUNY Stony Brook	CERES	544	536	551	LaTIS: 10-Aug-02 - 31-Aug-02	18447	3793	Excellent	E	Excellent	NISN -> Abilene via MAX	
OH, Ohio State Univ	ICESAT	400	5425	5425	GSFC: 29-May-02 - 31-Aug-02	40008	21669	Excellent	E	Excellent	Abilene via MAX	
OR, Oregon State Univ	CERES, MODIS	5007	4390	5666	LaTIS: 01-Aug-02 - 31-Aug-02	13042	4942	GOOD	G	Adequate	NISN -> Abilene	LaRC Firewall
PA, Penn State	MISR	1947	2121	2295	LaRC DAAC: 01-Aug-02 - 31-Aug-02	19489	2695	GOOD	A	GOOD	NISN -> Abilene	
TX, Texas A&M	AMSR	400	400	400								
TX, U Texas-Austin	ICESAT	700	8755	8755	GSFC: 01-Feb-02 - 31-Aug-02	45490	35964	Excellent	E	Excellent	Abilene via MAX	
VA, LaRC - SAGE III MOC	SAGE III	200	200	200	GSFC-CSAFS: 01-Apr-02 - 31-Aug-02	3745	1292	Excellent	E	Excellent	Abilene via NISN-MAX	
WA, NOAA PNNL	MISR	400	400	400								
WA, U Washington	ICESAT	2400	10920	10920	GSFC: 01-Aug-02 - 31-Aug-02	23885	16026	GOOD	G	GOOD	Abilene via MAX	
WI, U of Wisc.	MODIS, AIRS	4599	9135	12152	GSFC: 01-Aug-02 - 31-Aug-02	47543	15832	GOOD	G	GOOD	Abilene via MAX	
Brazil, INPE	HSB	0	622	622	GSFC: 27-Jun-02 - 31-Aug-02	870	369	Adequate	A	Adequate	Abilene -> AMpath-> ANSP	
Canada, U. of Toronto	MOPITT	441	456	471	LARC DAAC: 14-Jul-02 - 31-Aug-02	1419	1038	GOOD	G	GOOD	NISN T1	NISN-CA*net3
France, Palaiseau	CERES	204	203	204								
Italy, Ispra (JRC)	MISR	237	308	1923	LaRC DAAC: 13-Mar-02 - 31-Aug-02	658	146	Adequate	A	LOW	NISN-UUNET-Milan	
Netherlands (KNMI)	OMI	0	0	311	GSFC: 12-Jul-02 - 31-Aug-02	2467	2447	Excellent	E	Excellent	Abilene --> Chi -> Surfnet	
Russia, Moscow (CAO)	SAGE III	26	26	26	CAO-LaRC-N: 04-Jul-02 - 31-Aug-02	157	139	Excellent	E	Excellent	NISN -> Moscow	
UK, Oxford	HIRDLS	0	0	311	GSFC: 12-Mar-01 - 28-Aug-02	3857	3544	Excellent	E	Excellent	Abilene->JAnet (NY)	
UK, London (UCL)	MISR, MODIS	478	616	755	LDAAC-UCL-SCF: 01-Aug-02 - 31-Aug-02	1981	341	Adequate	A	Adequate	Abilene->JAnet (NY)	

*Rating Criteria:		Rating	Current Score	Prev. Score	re FY '03 Score
Excellent	Median of Daily worst hours >= 3 *Requirement	Excellent	13	13	13
GOOD	Median of Daily worst hours >= Requirement	GOOD	8	8	7
Adequate	Median of Daily worst hours < Requirement <= Median of Daily Medians	Adequate	8	8	9
LOW	Requirement > Median of Daily Medians	LOW	1	1	1
BAD	Requirement > 3 * Median of Daily Medians	BAD	0	0	0
		Total	30	30	30
		GPA	3.10	3.10	3.07

Change History:		
8-Jun-98	Original	
10-Jul-98	Incorporated new MISR QA flows	
10-Sep-98	Added % of requirements columns and associated chart	
28-Oct-99	Added Previous Status Column	
1-Jul-00	Added "Excellent" Status, Ratings Summary Chart	
10-Apr-01	Updated requirements with BAH, added additional sites and missions	
7-Jun-01	Added ICESAT sites and requirements, added contingency to QA and SIPS	
13-Jul-01	Updated requirements for latest # of users	

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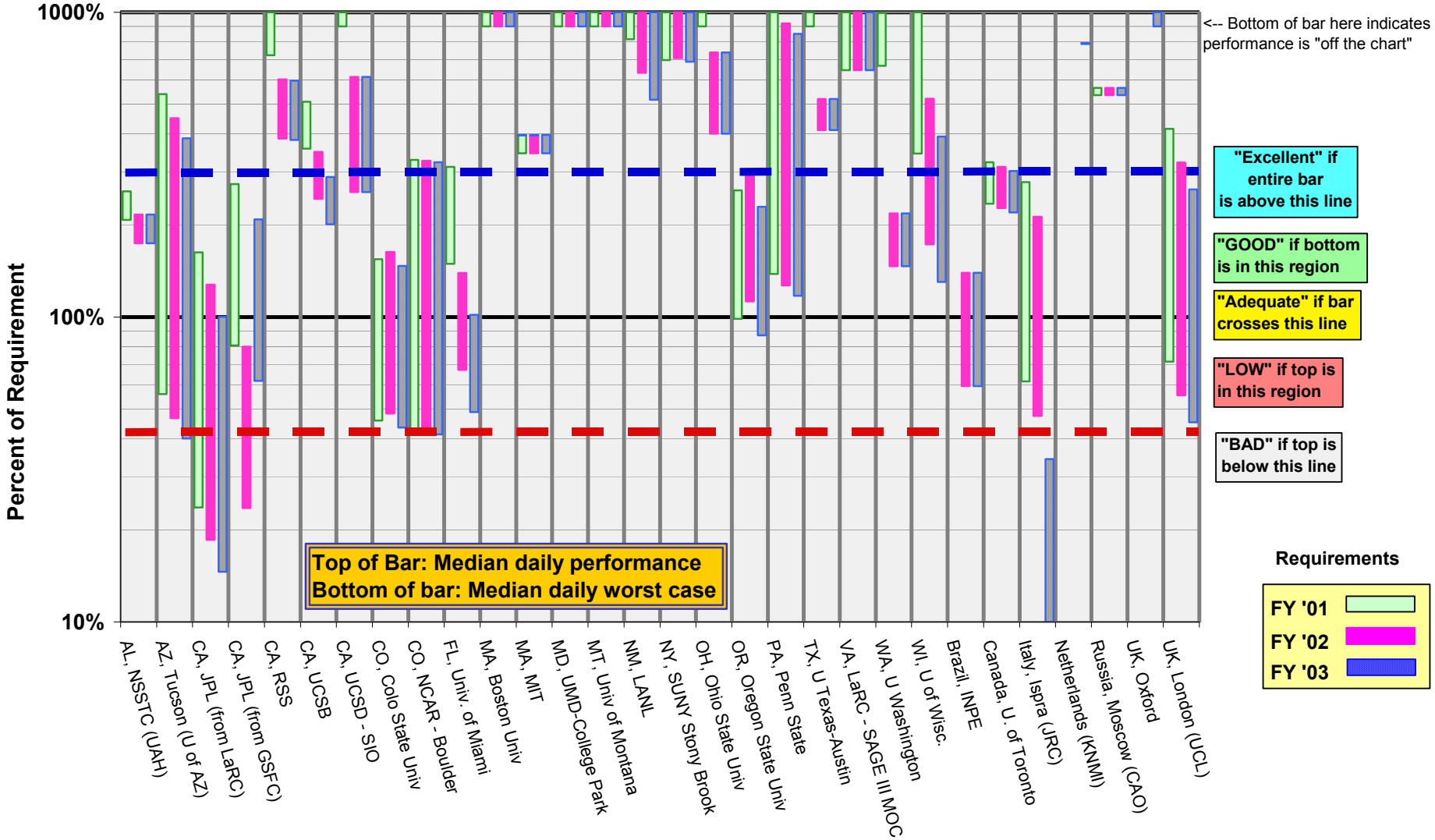
EOS QA SCF Sites
Daily Median and Worst Performance as a percent of Requirements



Details on individual sites:

Each site listed below is the DESTINATION for all the results reported in that section. The first test listed is the one on which the rating is based -- it is from the source most relevant to the driving requirement. Other tests are also listed. The three values listed are derived from [nominally] 24 tests per day. For each day a daily best, worst, and median is obtained. The values shown below are the medians of those values over the test period.

1) AL, NSSTC (UAH) (aka GHCC)

Rating: Continued **Good**

Teams: CERES, AMSR

Domain: nsstc.uah.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC LaTIS	5.8	4.7	3.8	NISN SIP
GSFC	17.8	17.5	14,6	NISN SIP

Requirements:

Source Node	FY	mbps	Rating
LaRC LaTIS	'02, '03	1.8	**Good**

Comments: The new test node (as of July 26) has higher performance (not limited by 10M Ethernet, as previously), both from LaTIS (Median was 4.1 mbps) and GSFC (median was 4.7 mbps), but performaqnce from both sources dropped about 20% on Auguts 8.

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2) AZ, Tucson (U of AZ):

Rating: Continued **Adequate**

Teams: MODIS, MISR

Domain: arizona.edu

Test Results: July 25-31

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	27.3	16.1	1.7	Abilene via NISN / Chicago
EDC	14.4	12.2	8.7	Abilene via vBNS+ / Chicago
GSFC	14.2	11.8	7.9	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'02	3.6	**Adequate**
EDC DAAC	'02	0.7	**Excellent**
LaRC DAAC	'03	4.2	**Adequate**
EDC DAAC	'03	0.8	**Excellent**

Comments: Performance from all sources dropped on 26 July but improved again from LDAAC on 17 August (also a small improvement from EDC on 14 August). Performance from LDAAC is still very noisy, with the highest and lowest values. In May, the medians were 15 mbps from LaRC, 23 mbps from EDC, and 26 mbps from GSFC.

3) CA, JPL:

Rating Continued **Low**

Teams: MISR, AIRS, TES, MLS, ASTER

Domain: jpl.nasa.gov

Test Results:

Source → Dest	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC → MISR	16.4	14.3	2.1	NISN PVC
GSFC DAAC → AIRS	17.4	14.0	4.1	NISN SIP
LaRC DAAC → MISR	19.4	13.1	0.7	NISN SIP

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'02	11.2	Adequate
LaRC DAAC	'03	14.3	Adequate
GSFC DAAC	'02	17.6	Low
GSFC DAAC	'03	6.7 (?)	Good

Comments:. Performance from LaRC via NISN private ATM VC between LaRC and MISR was mostly stable – but dropped about another 1 mbps from July. This is still rated as "Adequate" against the split LaRC requirements. Performance between these same nodes, via SIP, dropped a bit more at the same time, however (median was 16.7 mbps in July). The proposal by JPL to eliminate the private PVC, and use NISN SIP, appears to have dropped off the radar screen. At this time, however, the performance via SIP is worse than the PVC, and would also be rated "Adequate".

From GSFC to the AIRS SCF at JPL, the route from the GSFC campus switched from SIP to PIP this month, with performance steady at about 8 mbps. So testing to AIRS was moved to GDAAC, which still uses SIP. Performance from the G-DAAC was a bit lower than from "GSFC-NISN" previously (median was 17.1 mbps last month), possibly due to a bit of impairment from the DAAC firewall. The daily median is below the requirement, thus a FY'02 rating of "LOW". For FY '03 the AIRS requirement is shown as stopping, with the rating back to "Good", but this requirements drop seems unlikely to be accurate.

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4) CA, RSS: (Santa Rosa):

Rating: Continued **Excellent**

Teams: AMSR

Domain: remss.com

Test Results:

Source Node	Medians of daily tests (kbps)			Route
	Best	Median	Worst	
JPL PODAAC	2807	2264	1448	NISN SIP: 2 x T1

Requirements:

Source Node	FY	kbps	Rating
JPL PODAAC	'02	376	Excellent
JPL PODAAC	'03	380	Excellent

Comments: Daily median and worst performance dropped this month (peaks were stable), probably due to increased utilization. The median daily worst remained well above 3 x the requirement, so rates as Excellent.

5) CA, UCSB:

Rating: Continued **Good**

Teams: MODIS

Domain: s2k.ucsb.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-DAAC	17.1	12.5	8.7	Abilene via NISN / MAX
EDC	20.0	17.3	13.6	Abilene via vBNS+/Chicago

Requirements:

Source Node	FY	mbps	Rating
GSFC-MODIS	'02	3.6	**Good**
GSFC-MODIS	'03	4.3	**Good**

Comments: Performance stable from GSFC-DAAC since testing resumed on 28 May, after GSFC firewall installation – now using multiple TCP streams to work around TCP window limitations. Also stable from EDC since 10 June, after firewall installation, also using multiple TCP streams – would be rated "Excellent".

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6) CA, UCSD (SIO):

Rating: Continued **Good**

Teams: CERES, ICESAT

Domain: ucsd.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC	43.0	38.2	16.0	Abilene via MAX
LaTIS	23.9	21.4	10.2	Abilene via NISN / Chi

Requirements:

Source Node	FY	mbps	Rating
GSFC	'02, '03	6.2	**Good**
LaTIS	'02, '03	0.25	**Excellent**

Comments: Results from both sources improved a great deal around June 1 (prior to that, median was 16 mbps from GSFC and 5.2 from LaTIS). GSFC performance almost rates Excellent, but not quite.

From LaTIS, performance was limited by the LaRC firewall's lack of support for extended windows. Started using multiple tcp streams on 29 May to migitate this situation; thruput improved dramatically.

7) CO, Colo State Univ.:

Rating: Continued **Adequate**

Teams: CERES

Domain: colostate.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	3.4	2.7	0.8	Abilene via NISN / Chicago
GSFC	4.4	4.3	4.1	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaTIS	'02	1.67	**Adequate**
LaTIS	'03	1.85	**Adequate**

Comments: Performance from LaTIS dropped and got noisier around 1 July. The daily worst is now below the requirement for both ’02 and ’03, so is rated “Adequate”. Performance from GSFC is very steady, would rate as “Good” for both years. The thruput limitation (about 4.5 mbps) is the CSU 10M Ethernet LAN.

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8) CO, NCAR:

Rating: Continued Adequate

Teams:MOPITT

Domain: scd.ucar.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	24.5	15.3	2.0	Abilene via NISN / Chicago
GSFC	70.9	48.1	24.9	Abilene via MAX
EDC	83.7	71.7	65.5	Abilene via vBNS+ / Chicago

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	‘02	4.7	**Adequate**
LaRC DAAC	'03	4.8	**Adequate**

Comments: Performance from LaRC DAAC dropped drastically on 28 Aug, due to a NISN route change, but switched back to Abilene in Sept.

Performance from GSFC improved in June (median was 37 mbps), would be rated "Excellent", still via Abilene.

Performance from EDC to NCAR, already excellent and very stable, improved in August (was typ 50 mbps), by the use of multiple TCP streams to mitigate the EDC firewall window size limitation.

9) FL, Univ. of Miami:

Rating: ↓ Good → **Adequate**

Teams: MODIS, MISR

Domain: rsmas.miami.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC	22.4	14.3	6.9	Abilene via MAX
GSFC-MODIS	33.4	19.3	9.3	Abilene via NISN / MAX
LaRC DAAC	11.1	6.9	1.7	Abilene via NISN / Chicago

Requirements:

Source Node	FY	mbps	Rating
GSFC	'02	9.7	**Adequate**
GSFC	'03	13.3	**Adequate**
LaRC DAAC	'02	0.6	**Good**
LaRC DAAC	'03	0.8	**Good**

Comments: Requirements split between LaRC (MISR) and GSFC (MODIS) in March. Performance from all sources continues short term variable, but long term stable. Performance from MODIS at GSFC would also score as Adequate for FY'02 and '03. MODIS LAN reconfiguration at the end of August improved performance.

Testing from LDAAC added in Feb '02, performance via NISN to Abilene is lower but well above the MISR requirements; performance is just a bit below excellent for FY '02.

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10) MA, Boston Univ:

Rating: Continued **Excellent**

Teams: MODIS, MISR

Domain: bu.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EDC DAAC	62.4	48.8	30.6	Abilene via vBNS+ / Chicago
GSFC	92.4	82.8	50.8	Abilene via MAX
LaRC DAAC	28.4	21.9	5.5	Abilene via NISN / Chicago

Requirements:

Source Node	FY	mbps	Rating
EDC DAAC	'02	2.0	**Excellent**
EDC DAAC	'03	2.5	**Excellent**
LaRC DAAC	'02, '03	TBD	**N/A**

Comments: Performance very stable from all sites via Abilene. Would also be rated excellent from GSFC. Daily worst performance from LDAAC improved, possibly due to reduced congestion. Performance from EDC improved due to use of multiple TCP streams next month to overcome window size limitation at EDC.

11) MA, MIT:

Rating: Continued **Excellent**

Teams: ICESAT

Domain: mit.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC	6.9	6.7	5.9	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'02, '03	1.7	**Excellent**

Comments: Performance via Abilene has been very stable since testing began in January 2002 . The thruput limit is a 10M Ethernet at MIT.

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12) MD, Univ. of Maryland:

Rating: Continued **Excellent**

Teams: MODIS

Domain: umd.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-MAX	157.1	152.1	127.0	Direct Fiber OC-12 / MAX / SCF
GSFC-MODIS	24.5	14.4	3.0	NISN / MAX / UMIACS
EDC	135.3	127.0	76.7	VBNS+ / Chi / Abilene / MAX / SCF
NSIDC	41.2	18.7	6.9	Abilene / MAX / SCF

Requirements (QA only):

Source Node	FY	mbps	Rating
GSFC DAAC	'02	1.9	**Excellent**
GSFC DAAC	'03	2.5	**Excellent**

Comments: Steady performance from GSFC-MAX. Reconfiguration at UMD in November 2001 removed the OC-3 ATM interface, upgraded to GigE. But configuration at UMD reduces performance to UMIACS test node. Performance from EDC is now using multiple TCP streams; median in July was only 43 mbps. Performance from NSIDC is generally stable, but median dropped at the end of August due to congestion at NSIDC (students returned). CU Boulder is upgrading its connection to Abilene from OC-3 to OC-12.

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13) MT, Univ of Montana:

Rating: Continued **Excellent**

Teams: MODIS

Domain: ntsg.umt.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
EDC DAAC	134.5	90.0	34.5	VBNS+ / Chi / Abilene
GSFC	38.6	35.7	29.8	MAX / Abilene
NSIDC	39.7	36.1	13.4	CU / FRG / Abilene

Requirements:

Source Node	FY	kbps	Rating
EDC DAAC	'02	459	**Excellent**
EDC DAAC	'03	603	**Excellent**

Comments: Testing from EDC improved greatly on 29 May 02, due to vBNS+ upgrade, and use of using multiple TCP streams (median was 15 mbps in May). Performance steady from GSFC. Performance from NSIDC mostly steady, but dropped at the end of the month as UCB students returned and congested the Abilene connection.

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14) NM, LANL:

Rating: Continued **Excellent**

Teams: MISR

Domain: lanl.gov

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	15.7	13.9	3.9	NISN SIP / MAE-W (Ames) / ESnet
GSFC	16.8	16.7	15.3	MAX / ESnet

Requirements:

Source Node	FY	kbps	Rating
LaRC DAAC	'02	616	**Excellent**
LaRC DAAC	'03	755	**Excellent**

Comments: Performance from LaRC generally stable after firewall installation at LaRC, but a bit noisier (all medians dropped a bit), due to congestion on NISN. Performance from GSFC extremely stable.

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15) NY, SUNY-SB:

Rating: Continued **Excellent**

Teams: CERES, MODIS

Domain: sunysb.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	23.2	18.4	3.8	NISN SIP / MAX / Abilene / NYSERnet
GSFC	32.2	27.2	22.2	MAX / Abilene / NYSERnet

Requirements:

Source Node	FY	kbps	Rating
LaTIS	'02	536	**Excellent**
LaTIS	'03	551	**Excellent**

Comments: Performance from LaTIS improved 10 August, due to use of multiple TCP streams to mitigate LaRC firewall window limitation, and NISN route change to peer with Abilene at MAX instead of Chicago.

Performance from GSFC very steady since May.

16) OH, Ohio State Univ:

Rating: Continued **Excellent**
Teams: ICESAT
Domain: ohio-state.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC	47.4	40.0	21.7	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'02, '03	5.4	**Excellent**

Comments: Performance very steady after recovery on May 28.

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17) OR, Oregon State Univ:

Rating: Continued **Good**
Teams: CERES, MODIS
Domain: oce.orst.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaTIS	15.1	13.0	4.9	Abilene via NISN / Chicago
JPL	27.2	25.3	21.4	CalREN / Abilene
GSFC	19.7	13.9	8.5	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaTIS	'02	4.4	**Good**
LaTIS	'03	5.7	**Adequate**
GDAAC	'02, '03	0.12	**Excellent**

Comments: Performance from LaTIS stable but noisy (had improved 29 May by using multiple TCP streams to overcome the LaRC firewall TCP window size limitation). Increased noise reduced daily worst below FY '03 requirement, dropping that rating. Performance from JPL and GSFC very steady.

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18) PA: Penn State Univ

Rating: ↑ Adequate → **Good**
Teams:MISR
Domain: psu.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	28.5	19.5	2.7	Abilene via NISN / MAX
GSFC	45.7	45.4	42.2	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
LaRC DAAC	'02	2.1	**Good**
LaRC DAAC	'03	2.3	**Good**

Comments: Performance from LDAAC improved, due to NISN routing to Abilene via MAX instead of Chicago. increasing rating back to "Adequate". Performance from GSFC has been very stable.

19) TX: Univ. Texas - Austin

Rating: Continued **Excellent**

Teams: ICESAT

Domain: utexas.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC	48.7	45.5	36.0	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'02, '03	8.8	**Excellent**

Comments: Performance from GSFC via Abilene remains very stable

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20) VA, LaRC - SAGE III MOC:

Rating: Continued **Excellent**

Teams: SAGE III

Domain: larc.nasa.gov

Test Results:

Source Node	Medians of daily tests (kbps)			Route
	Best	Median	Worst	
GSFC-SAFS	4183	3745	1292	NISN SIP

Requirements:

Source Node	FY	kbps	Rating
GSFC SAFS	'02, '03	200	**Excellent**

Comments: LaRC firewall upgrade in March removed the former daily cycle.

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21) WA, Univ Washington:

Rating: Continued **Good**

Teams: ICESAT

Domain: washington.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC	31.5	23.9	16.0	Abilene via MAX

Requirements:

Source Node	FY	mbps	Rating
GSFC	'02, '03	10.9	**Good**

Comments: Performance improved a bit in August (had dropped on May 10 – but median was 30.8 mbps before that). Still rates as “Good”.

22) WI, Univ. of Wisconsin:

Rating: Continued **Good**

Teams: MODIS

Domain: ssec.wisc.edu

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC-MAX	61.1	47.5	15.8	MAX / Abilene / Chi / MREN
GSFC-MODIS	40.9	16.7	2.3	NISN / Chicago / MREN
GSFC-NISN	15.8	13.6	6.0	NISN / Chicago / MREN

Requirements:

Source Node	FY	mbps	Rating
GSFC	'02	9.1	**Good**
GSFC	'03	12.2	**Good**

Comments: Thruput improved a bit in August from GSFC-MAX via Abilene, improving FY '03 rating back to "Good" from "Adequate", FY '02 remains "Good". Performance via NISN also improved from both MTVS1 and GSFC-NISN in August (had dropped 25 May). Reconfiguration at GSFC at the end of August now allows MODIS to use Abilene rather than NISN. Performance improved significantly –- results next month

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23) Brazil, INPE:

Rating: Continued Adequate

Team: HSB

Domain: inpe.br

Test Results:

Source Node	Medians of daily tests (kbps)			Route
	Best	Median	Worst	
GSFC	1450	870	369	MAX / Abilene / AMPATH / ANSP
GSFC	1073	479	117	NISN / GBLX / ANSP

Requirements: (2 ISTs only)

Source Node	FY	kbps	Rating
GSFC EOC	'02, '03	622	**Adequate**

Comments: Testing restarted 27 June, performance stable since then (had stopped April 21, due to the installation of a firewall at INPE). Now testing via two routes: performance via AMPATH about the same as previously, rated "Adequate" Performance via commodity path would rate "Low".

24) Canada, Univ of Toronto: Rating: Continued Good

Team: MOPITT Domain: physics.utoronto.ca

Test Results:

Source Node	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
LaRC DAAC	1.42	1.42	1.04	NISN / GSFC / T1
LaRC DAAC	9.7	5.7	1.3	NISN / Chicago / CA*net4
GSFC	1.43	1.42	1.07	NISN / T1
GSFC	23.6	23.5	22.6	MAX / Abilene / Chicago / CA*net4

Requirements:

Source Node	FY	kbps	Rating
LaRC DAAC	'02, '03	160	Excellent
GSFC EOC	'02, '03	311	Excellent
Combined	'02, '03	471	Good

Comments: Performance from both LDAAC (Source of QA data) and GSFC (Source for IST) via NISN dedicated T1 is very steady; performance from LaRC has become less erratic this month Since both flows are combined together on the T1, the performance compared to the combined requirement rates as "Good".

Performance from both LaRC and GSFC via Chicago / CA*net4 / ONet had serious problems for most of August (perhaps during the upgrade to CA*net4 ?). Good performance recovered 19 August, performance from GSFC is fully back to previous levels, from LaRC somewhat lower (values above reflect this timeframe. This route is MUCH better than the NISN dedicated circuit -- would be rated "Excellent" from both sources.

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25) IT, EC - JRC: Rating: Continued Adequate

Teams: MISR Domain: ceo.sai.jrc.it

Test Results:

Source Node	Medians of daily tests (kbps)			Route
	Best	Median	Worst	
LaRC DAAC	802	658	146	NISN / UUnet / Milan

Requirements:

Source Node	FY	kbps	Rating
LaRC DAAC	'02	308	Adequate
LaRC DAAC	'03	1923	Low

Comments: Performance has been stable, with the typical noisy performance from LaRC, and lower daily worst value.

Note: It is unlikely that the FY'03 requirement can be met without additional resources.

26) Netherlands, KNMI:

Rating: Continued **Excellent**

Teams: OMI

Domain: nadc.nl

Test Results:

Source → Dest	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC → OMI PDR Server	2.52	2.47	2.45	MAX / Abilene/ Chi / Surfnet
GSFC → KNMI Test Node	65.9	62.9	44.7	MAX / Abilene/ Chi / Surfnet

Requirements: (IST Only)

Source Node	FY	Mbps	Rating
GSFC	'03	0.311	**Excellent**

Comments: Performance to the OMI PDR server is still limited by the maximum TCP window size on the OMI PDR server. The 8 KB windows limit the flow to about 500 kbps per tcp stream; 5 streams are used to get the performance above. With the low IST only requirement, this still rates as "Excellent"

Performance is very stable to the KMNI Test node. This is exceptionally good performance for US to Europe! Surfnet plans to upgrade their connection to Chicago to 10 Gbps (!) in September.

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27) Russia, CAO (Moscow):

Rating: Continued **Excellent**

Teams: SAGE III

Domain: mipt.ru

Test Results:

Source → Dest	Medians of daily tests (kbps)			Route
	Best	Median	Worst	
CAO → LaRC	158	157	139	MIPT / TCnet / NISN SIP
CAO → LaRC	1145	1046	515	Commodity Internet
LaRC → CAO	144	138	106	NISN SIP / TCnet / MIPT
LaRC → CAO	1361	1148	576	Commodity Internet

Requirements:

Source → Dest	FY	kbps	Rating
CAO → LaRC	'02	26	**Excellent**
LaRC → CAO	'02	26	**Excellent**

Comments: Performance testing running since 1 November, with dual routes. Performance on NISN dedicated circuit to Moscow, then TCnet (NASA Russian ISP) tunnel to CAO ISP (MIPT) is extremely steady in both directions (but with an occasional outage – about 1 day per month). The dual route configuration also allows testing via the commodity internet route; performance via that route is better but more variable, also would rate Excellent.

28) UK, London: (UCL SCF)

Rating: Continued **Adequate**

Teams: MODIS, MISR

Domain: ucl.ac.uk

Test Results:

Source Node	Medians of daily tests (kbps)			Route
	Best	Median	Worst	
LaRC DAAC	2680	1981	341	NISN / MAX / Abilene / NY / JAnet
GSFC DAAC	6140	6038	4761	MAX / Abilene / NY / JAnet

Requirements

Source Node	FY	kbps	Rating
LaRC DAAC	'02	616	**Adequate**
LaRC DAAC	'03	755	**Adequate**

Comments: Performance from LDAAC still quite noisy, as with most tests from LDAAC, all medians dropped a little this month, but the rating remains "Adequate".

Performance from GSFC has been very stable; would rate as "Excellent".

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29) UK, Oxford:

Rating: Continued **Excellent**

Teams: HIRDLS

Domain: ox.ac.uk

Test Results:

Source Node	Medians of daily tests (kbps)			Route
	Best	Median	Worst	
GSFC	4933	4438	3536	MAX / Abilene / NY / JAnet

Requirements: (IST Only)

Source Node	FY	kbps	Rating
GSFC	'03	311	**Excellent**

Comments: Very steady performance continues, but with slight drop.

Test Results to other EOS HIRDLS UK Sites (Requirements TBD):

Source → Dest	Medians of daily tests (mbps)			Route
	Best	Median	Worst	
GSFC → RAL	14.1	8.0	1.9	MAX / Abilene / NY / JAnet

Comments: Thruput to RAL is noisy, but remains excellent.